

0.09 by 0.0045 mm.; the spines are sharp, prominent, and very abundant, except in the centre of the shaft, where they are rather scarce.

This remarkable sponge is one which may be easily recognised both by its external appearance and by its spiculation, the latter being quite unmistakable.

The skeleton is arranged on decidedly an Axinellid type, especially as regards the manner in which the large, radiating, stylote spicules are surrounded by dense sheaves of small, slender styli. The general appearance of the sponge is thus decidedly Axinellid, but no sponge belonging to this group has hitherto been found with the spined oxeote microsclera, which closely agree in form with the microsclera of *Spongilla lacustris*.

Locality.—Simon's Bay, Cape of Good Hope; depth, 10 to 20 fathoms. Two specimens.

Genus *Thrinacophora*, Ridley (Pls. XXIII., XXIV., XXXVI., XL.).

1885. *Thrinacophora*, Ridley, Narr. Chall. Exp., vol. i. pt. ii. p. 572.

1886. *Thrinacophora*, Ridley and Dendy, Ann. and Mag. Nat. Hist., ser. 5, vol. xviii. p. 483.

Sponge ramose, with a dense central axis of spiculo-fibre; megasclera styli and (or) oxea, and (in some species) cladostrongyla. Microsclera present in the form of trichodragmata.

This genus was first founded by Ridley (*loc. cit.*), for the reception of the very remarkable species which we have called *Thrinacophora funiformis*. It was at first thought that the curious furcation of one of the megasclera in this species would prove to be a character of generic importance, but our subsequent examination of the collection disclosed another sponge (*Thrinacophora cervicornis*), which agrees so closely with *Thrinacophora funiformis* that the two seem to us to be, at any rate for the present, generically inseparable, although the former possesses none of the branching spicules. Hence we have decided that in this case, as in the Desmacidonidæ, the microsclera are the most reliable guides to classification, and we consider the presence of the trichodragmata, taken in conjunction with the Axinellid arrangement of the skeleton, as the most important generic character. This one character separates the genus at once and absolutely from all other known genera of Axinellidæ.

Possibly the branched spicule of *Thrinacophora funiformis* is comparable to the "bidentate" stylus of the only known species of *Dendropsis*, and it is noteworthy in this connection that both these genera stand apart from the remaining Axinellidæ in the possession of microsclera, though the microsclera are of very different form in the two cases. We have already¹ had occasion to point out the special bearing of the presence of a branched spicule in *Thrinacophora funiformis* upon the question of the relationship of the Monaxonida to the Tetractinellida.

¹ *Ann. and Mag. Nat. Hist.*, ser. 5, vol. xviii. p. 157.